



1

SEQUENCE LISTING

<110> HAMILTON, STEPHEN

<120> ENDOMANNOSIDASES IN THE MODIFICATION OF GLYCOPROTEINS
IN EUKARYOTES

<130> GFI/109 CIP

<140> 10/695,243

<141> 2003-10-27

<150> 10/371,877

<151> 2003-02-20

<160> 29

<170> PatentIn Ver. 3.2

<210> 1

<211> 1389

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

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Asn Pro Pro Asp Asp Ile Gly Ser Ser Phe Tyr Pro Glu Leu Gly Ser	
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Arg Ser Ala Ser Ile Gly Val Leu Ala Leu Ser Trp Tyr Pro Pro Asp	
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gta aat gat gaa aat gga gaa cct act gat aac ttg gta ccc act att	624
Val Asn Asp Glu Asn Gly Glu Pro Thr Asp Asn Leu Val Pro Thr Ile	
195 200 205	
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Ser Phe Asn Glu Trp His Glu Gly Thr Gln Ile Glu Lys Ala Val Pro
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aat cca cag ttt gat ggt aaa tat ata cac tgg aat cat ccg gtc ctg	384
Asn Pro Gln Phe Asp Gly Lys Tyr Ile His Trp Asn His Pro Val Leu	
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Asn	Pro	Gln	Phe	Asp	Gly	Lys	Tyr	Ile	His	Trp	Asn	His	Pro	Val	Leu	115	120	125	
Glu	His	Trp	Asp	Pro	Arg	Ile	Ala	Lys	Asn	Tyr	Pro	Gln	Gly	Gln	His	130	135	140	
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Ser	Arg	Asp	Asp	Asn	Gly	Glu	Ala	Thr	Asp	His	Leu	Val	Pro	Thr	Ile	195	200	205	
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Pro	Tyr	Ser	Asn	Arg	Asp	Asp	Gln	Asn	Met	His	Gln	Asn	Ile	Lys	Tyr	225	230	235	240
Ile	Ile	Asp	Lys	Tyr	Gly	Asn	His	Pro	Ala	Phe	Tyr	Arg	Tyr	Lys	Thr	245	250	255	
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Ser Val Arg Ser Ser Leu Tyr Asp Gly Leu Phe Ile Ala Leu Leu Val
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 Glu Glu Lys His Lys Asn Asp Ile Leu Gln Ser Gly Phe Asp Gly Ile
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 Gly Leu Ser Ala Ala Leu Gln Thr His Pro Ser Leu Ile Ser Ile Thr
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 Ser Phe Asn Glu Trp His Glu Gly Thr Gln Ile Glu Lys Ala Val Pro
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 Lys Arg Thr Ala Asn Thr Ile Tyr Leu Asp Tyr Arg Pro His Lys Pro
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Tyr Tyr Glu Val Gly Leu Ser Ala Ala Leu Gln Thr Gln Pro Ser Leu
 210 215 220

Ile Ser Ile Thr Ser Phe Asn Glu Trp His Glu Gly Thr Gln Ile Glu
 225 230 235 240

Lys Ala Val Pro Lys Arg Thr Ala Asn Thr Val Tyr Leu Asp Tyr Arg
 245 250 255

Pro His Lys Pro Ser Leu Tyr Leu Glu Ile Thr Arg Lys Trp Ser Glu
 260 265 270

Lys Tyr Ser Lys Glu Arg Met Thr Tyr Ala Leu Asp Gln Gln Leu Pro
 275 280 285

Ala Ser
 290

<210> 24
 <211> 290
 <212> PRT
 <213> Homo sapiens

<400> 24

Met Arg Gln Met Arg Ser Ala Ser Ile Gly Val Leu Ala Leu Ser Trp
 1 5 10 15

Tyr Pro Pro Asp Val Asn Asp Glu Asn Gly Glu Pro Thr Asp Asn Leu
 20 25 30

Val Pro Thr Ile Leu Asp Lys Ala His Lys Tyr Asn Leu Lys Val Thr
 35 40 45

Phe His Ile Glu Pro Tyr Ser Asn Arg Asp Asp Gln Asn Met Tyr Lys
 50 55 60

Asn Val Lys Tyr Ile Ile Asp Lys Tyr Gly Asn His Pro Ala Phe Tyr
 65 70 75 80

Arg Tyr Lys Thr Lys Thr Gly Asn Ala Leu Pro Met Phe Tyr Val Tyr
 85 90 95

Asp Ser Tyr Ile Thr Lys Pro Glu Lys Trp Ala Asn Leu Leu Thr Thr
 100 105 110

Ser Gly Ser Arg Ser Ile Arg Asn Ser Pro Tyr Asp Gly Leu Phe Ile
 115 120 125

Ala Leu Leu Val Glu Glu Lys His Lys Tyr Asp Ile Leu Gln Ser Gly
 130 135 140

Phe Asp Gly Ile Tyr Thr Tyr Phe Ala Thr Asn Gly Phe Thr Tyr Gly
 145 150 155 160

Ser Ser His Gln Asn Trp Ala Ser Leu Lys Leu Phe Cys Asp Lys Tyr
 165 170 175
 Asn Leu Ile Phe Ile Pro Ser Val Gly Pro Gly Tyr Ile Asp Thr Ser
 180 185 190
 Ile Arg Pro Trp Asn Thr Gln Asn Thr Arg Asn Arg Ile Asn Gly Lys
 195 200 205
 Tyr Tyr Glu Ile Gly Leu Ser Ala Ala Leu Gln Thr Arg Pro Ser Leu
 210 215 220
 Ile Ser Ile Thr Ser Phe Asn Glu Trp His Glu Gly Thr Gln Ile Glu
 225 230 235 240
 Lys Ala Val Pro Lys Arg Thr Ser Asn Thr Val Tyr Leu Asp Tyr Arg
 245 250 255
 Pro His Lys Pro Gly Leu Tyr Leu Glu Leu Thr Arg Lys Trp Ser Glu
 260 265 270
 Lys Tyr Ser Lys Glu Arg Ala Thr Tyr Ala Leu Asp Arg Gln Leu Pro
 275 280 285
 Val Ser
 290

<210> 25
 <211> 195
 <212> PRT
 <213> Homo sapiens

<400> 25
 Met Ala Lys Phe Arg Arg Arg Thr Cys Ile Ile Leu Ala Leu Phe Ile
 1 5 10 15
 Leu Phe Ile Phe Ser Leu Met Met Gly Leu Lys Met Leu Arg Pro Asn
 20 25 30
 Thr Ala Thr Phe Gly Ala Pro Phe Gly Leu Asp Leu Leu Pro Glu Leu
 35 40 45
 His Gln Arg Thr Ile His Leu Gly Lys Asn Phe Asp Phe Gln Lys Ser
 50 55 60
 Asp Arg Ile Asn Ser Glu Thr Asn Thr Lys Asn Leu Lys Ser Val Glu
 65 70 75 80
 Ile Thr Met Lys Pro Ser Lys Ala Ser Glu Leu Asn Leu Asp Glu Leu
 85 90 95

Pro Pro Leu Asn Asn Tyr Leu His Val Phe Tyr Tyr Ser Trp Tyr Gly
 100 105 110

Asn Pro Gln Phe Asp Gly Lys Tyr Ile His Trp Asn His Pro Val Leu
 115 120 125

Glu His Trp Asp Pro Arg Ile Ala Lys Asn Tyr Pro Gln Gly Arg His
 130 135 140

Asn Pro Pro Asp Asp Ile Gly Ser Ser Phe Tyr Pro Glu Leu Gly Ser
 145 150 155 160

Tyr Ser Ser Arg Asp Pro Ser Val Ile Glu Thr His Met Arg Gln Met
 165 170 175

Arg Ser Ala Ser Ile Gly Val Leu Ala Leu Ser Trp Tyr Pro Pro Asp
 180 185 190

Val Asn Glu
 195

<210> 26

<211> 451

<212> PRT

<213> Rattus norvegicus

<400> 26

Met Gly Ala Leu Met Ala Thr Tyr Ser Glu Gly Met Met Gly Cys Ser
 1 5 10 15

Ser Val Gly Arg Cys Phe Ser Ser Thr Leu Ser Pro Ile Ile Thr Leu
 20 25 30

Val Ala Thr Ser Met Lys Ser Thr Pro Arg Val Leu Glu Asn Lys Ala
 35 40 45

Asp Phe Gln Arg Ser Asp Arg Ile Asp Met Glu Thr Asn Thr Lys Asp
 50 55 60

Leu Lys Gly Ala Gly Val Thr Val His Pro Pro Arg Ala Ser Glu Val
 65 70 75 80

Asn Leu Glu Glu Leu Pro Pro Leu Asn Tyr Phe Val His Ala Phe Tyr
 85 90 95

Tyr Ser Trp Tyr Gly Asn Pro Gln Phe Asp Gly Lys Tyr Val His Trp
 100 105 110

Asn His Pro Val Leu Glu His Trp Asp Pro Arg Ile Ala Lys Asn Tyr
 115 120 125

Pro Gln Gly Arg His Ser Pro Asp Asp Ile Gly Ser Ser Phe Tyr
 130 135 140

Pro Glu Leu Gly Ser Tyr Ser Ser Arg Asp Pro Ser Val Ile Glu Thr
 145 150 155 160
 His Met Lys Gln Met Arg Ser Ala Ser Ile Gly Val Leu Ala Leu Ser
 165 170 175
 Trp Tyr Pro Pro Asp Ala Ser Asp Glu Asn Gly Glu Ala Thr Asp Tyr
 180 185 190
 Leu Val Pro Thr Ile Leu Asp Lys Ala His Lys Tyr Asn Leu Lys Val
 195 200 205
 Thr Phe His Ile Glu Pro Tyr Ser Asn Arg Asp Asp Gln Asn Met His
 210 215 220
 Gln Asn Val Lys Tyr Ile Ile Asp Lys Tyr Gly Asn His Pro Ala Phe
 225 230 235 240
 Tyr Arg Tyr Lys Thr Arg Met Gly His Ser Leu Pro Met Phe Tyr Ile
 245 250 255
 Tyr Asp Ser Tyr Ile Thr Lys Pro Lys Thr Trp Ala Asn Leu Leu Thr
 260 265 270
 Pro Ser Gly Ser Gln Ser Val Arg Gly Ser Pro Tyr Asp Gly Leu Phe
 275 280 285
 Ile Ala Leu Leu Val Glu Glu Lys His Lys Tyr Asp Ile Leu Gln Ser
 290 295 300
 Gly Phe Asp Gly Ile Tyr Thr Tyr Phe Ala Thr Asn Gly Phe Thr Tyr
 305 310 315 320
 Gly Ser Ser His Gln Asn Trp Asn Lys Leu Lys Ser Phe Cys Glu Lys
 325 330 335
 Asn Asn Met Ile Phe Ile Pro Ser Val Gly Pro Gly Tyr Ile Asp Thr
 340 345 350
 Ser Ile Arg Pro Trp Asn Thr Gln Asn Thr Arg Asn Arg Ile Asn Gly
 355 360 365
 Lys Tyr Tyr Glu Val Gly Leu Ser Ala Ala Leu Gln Thr Gln Pro Ser
 370 375 380
 Leu Ile Ser Ile Thr Ser Phe Asn Glu Trp His Glu Gly Thr Gln Ile
 385 390 395 400
 Glu Lys Ala Val Pro Lys Arg Thr Ala Asn Thr Val Tyr Leu Asp Tyr
 405 410 415
 Arg Pro His Lys Pro Ser Leu Tyr Leu Glu Ile Thr Arg Lys Trp Ser
 420 425 430

Glu Lys Tyr Ser Lys Glu Arg Met Thr Tyr Ala Leu Asp Gln Gln Leu
 435 440 445

Pro Ala Ser
 450

<210> 27
 <211> 9
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide motif

<220>
 <221> MOD_RES
 <222> (4)
 <223> Lys or Arg

<400> 27
 Asp Phe Gln Xaa Ser Asp Arg Ile Asn
 1 5

<210> 28
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 28
 His Asp Glu Leu
 1

<210> 29
 <211> 4
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 peptide

<400> 29
 Lys Asp Glu Leu
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